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ABSTRACT

This program, included in "Effective Reading Programs....," was begun in 1971 and serves 145 randomly selected students in grades four, five, six, and eight. The program has two main objectives: (1) participating students will achieve higher standardized test scores in language arts and mathematics than control students and (2) participants will demonstrate skills of decision making, problem solving, critical thinking, and self-directed learning. After assessing student needs, using standardized tests and informal devices such as sociograms and autobiographies, teachers write individual prescriptions for each student that are adjusted to the student's daily needs. Classroom organization, in an open space setting, employs team teaching and provides for one-to-one instruction, large- and small-group instruction, individual work at learning stations, and self-selected activity by the student. Learning stations are designed with precisely stated goals and techniques for self-evaluation so that the student is given increased responsibility for learning. Other important components of the program include inservice programs; conferences with the supervisor, consultant, visitors, and parents; and visits to other schools by the project staff. (TO/AIR)

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INDIVIDUALIZING INSTRUCTION:
PLACING LEARNING AHEAD OF TEACHING
Title III, ESEA
Florence Public Schools, District One
Florence, South Carolina

ABSTRACT

Three centers for individualizing instruction are located in two elementary schools and one junior high school. Objectives of the project are that (1) students in the experimental groups will show significant improvement compared with a control group in language arts (reading, spelling, language) and/or mathematics and (2) students in the program will be able to demonstrate skills of decision making, problem solving, and critical thinking and will increasingly become self-directed learners.

Teachers assess individual needs by using standardized and nonstandardized testing and informal devices. Reading criterion-referenced tests, informal inventories, check lists, and diagnostic math tests are used to diagnose individual strengths and weaknesses. Simple projective techniques help teachers gain insight into a student's feelings and emotions.

In the elementary centers, two teachers and an aide direct the learning of the randomly selected students in large open areas. Individualization in language arts and mathematics is achieved by skills groupings, individual prescriptions, learning stations, and self-selection experiences.

In the junior high center, one teacher is responsible for individualizing instruction in language arts and social studies and the other for the instruction in mathematics and science. Small group instruction, skills, groupings, prescriptions, learning stations and self-selection activities are used in achieving the objectives.

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Background

For several years the personnel of Florence School District Number One considered innovations that would be applicable to revision of the elementary program in order to better meet the individual needs of all boys and girls. The need to broaden educational opportunities led the administration to seek a federal grant in order to finance a program in individualizing instruction, one which placed learning ahead of teaching.

In July, 1971, the district was awarded a grant under the provisions of Title III, Public Law 89-10, to implement a three-year pilot project. Harlee and McKenzie Elementary Schools and Poynor Junior High School were selected as sites for centers for individualizing instruction.

A team, composed of two intermediate level teachers and an aide, was chosen from each participating elementary school. At Harlee, fourth and fifth year students were selected by random sampling for the experimental and control groups. At McKenzie, students were selected by random sampling from incoming sixth year students. Eliminated from consideration at both schools were children with retarded mental development and severe emotional instability. Each team directs the learning of approximately sixty (60) students in a large open area.

During the first two years of the program at Poynor Junior High School (grades 7 and 8), four teachers from the content areas of language arts, mathematics, science and social studies and an aide composed the team. The team structure was changed for the third year of operation. Two teachers and an aide composed the team; one teacher was responsible for instruction in language arts and social studies and the other for the instructional program in mathematics and

science. Each year fifty (50) eighth grade students were selected by random sampling, with twenty-five (25) serving as the control group and twenty-five (25) serving as the experimental group. Eliminated from consideration were non-readers and those with retarded mental development and/or moderate to severe emotional instability.

Objectives

1. The approximately one hundred and forty-five (145) students in the experimental groups will show significant improvement compared with a control group in language arts (reading, spelling, language) and/or mathematics as measured by the Stanford Achievement Test (1964 edition).
2. The boys and girls in the program will be able to demonstrate the skills of decision making, problem solving, and critical thinking, and to show by practical application the ability to assume responsibility for their own learning and increasingly to become self-directed learners as measured by check lists.

Program Content

Teachers assess individual needs by using standardized and nonstandardized testing and informal devices. Informal inventories, Fountain Valley Teachers Support System in Reading, and basic reading criterion-referenced tests by Houghton Mifflin are among the tests used as deemed necessary to diagnose individual strengths and weaknesses in reading. Various checklists supplement this information. Diagnostic tests of Individualized Mathematics System provide the needed assessment of each student's mathematical skills. Simple projective techniques which help the teachers gain insight into a student's feelings and emotions are incomplete sentence tests, open-ended stories, sociometric techniques, open-ended reading autobiographies, story assignments, Wish Test, and "This Is

My Life."

Using the information acquired from the assessment of individual needs, teachers map out an instructional program for each student. The manner in which a boy or girl develops skills and understanding is based upon the concept of taking him where he is on the learning continuum and letting him advance as far and as fast as he can.

The diagnostic-prescriptive approach used by teachers in the project includes various methods and procedures for teaching the skills of reading. The basal reader approach, with skills groupings, is used with some students. A linguistic approach, with stress on word patterns, is used with youngsters who are having extreme difficulty with the reading process. Language experience is effective with students who have been "turned-off" by instructional methods involving textbooks. Some youngsters need the reinforcement given by the VAKT method. Individualized reading is used as a supplement to a student's instructional program but is not used as his total program. The learning center-station approach is used by Title III teachers as a method of individualizing instruction and helping students become more self-directed learners.

When a program stressing the individualization of instruction is begun, an inventory of available materials should be made. This should include materials available on a district-wide basis as well as those within the school. Each teacher organizes the materials in his classroom so that they are easily accessible when needed in an instructional area.

Classroom organization provides for large and small group instruction as well as one-to-one instruction. Students are grouped by academic or specific skill needs. Different types of rotation plans can be utilized for a systematic use of instructional time; a four-group plan is used for language arts instruction in the project.

Four thirty-minute time blocks involve four types of activities:

- direct instruction by the teacher in a small group or on an individual basis,
- follow-up activities based on skill needs taught in the instructional area,
- prescribed instruction which includes activities such as working on a prescription using a learning station or at a listening center, according to individual needs,
- self-selection or independent activities for which there is a choice.

As the teacher instructs one group at a time in the "direct teaching" activity, the other groups rotate among the remaining activities.

Individual prescriptions, written by the teacher and covering a small amount of work, are adjusted to the student's daily needs and rate of learning. The teacher is available to answer questions and help solve problems until the student completes the prescribed task.

Students, with the assistance of a teacher, plan their instructional program for a week. The teacher guides and directs. When a student completes an activity, he checks it off his plan. On Friday, all of his work is stapled to his plan and given to the teacher for review.

The success of the program lies in teacher organization and scheduling of students to activities. The stations are designed with precisely stated learning goals for the learner and techniques for self-evaluation. More responsibility for learning is placed on the student. He is encouraged to become a self-initiating, self-directed learner, which is one of the objectives of this program.

Self-selection experiences direct the student toward becoming a self-learner. When a boy or girl finishes his prescribed task, he is given an opportunity to select an activity which he feels is appropriate for his particular objectives and interests. In the beginning, a student may need help in choosing activities wisely.

The conference between the student and the teacher is the high point of an individualized instructional program. In these conferences the teacher discovers how the student feels about his work and himself in particular and gets his reaction to his prescribed task. She discovers what skills need reteaching or emphasizing and whether the student should be assigned to a group for instruction or to individual independent work. A boy or girl may request a conference just to share with the teacher some activity in which he has been engaged. Individual conferences need not be long in duration, possibly five or ten minutes.

Record keeping is a continuous process involving both student and teacher. The instruments used for record keeping indicate individual growth and learning progress in different skill areas. The responsibility of keeping records up-to-date is shared by student and teacher. The student can see what he has accomplished; the teacher can better diagnose and plan an instructional program. The teacher may devise her own checklist or record keeping system. Basal reader series include charts of skills a student should master on each level. These can easily be converted into checklists. Some professional references include checklists. The checklist of skills used in the Florence project is the one produced along with the Fountain Valley Teacher Support System. Individual folders with a student's work, diagnostic evaluation, and other data are kept in a special space provided to keep records.

The role of the teacher is changed from that of "an imparter of knowledge" to that of a diagnostician, and interpreter, a consultant, and a director of learning. No longer does she assume that all boys and girls learn at the same rate, are interested in the same subject, and can be reached through the same media. The teacher continually studies records, identifies needs, and develops instructional activities.

Since the success of any program depends upon the persons actually implementing

the program, special training for teachers and aides is important. A three-weeks workshop has been held each August for the past three years. During the first workshop, principals of the involved schools attended for one week and worked with consultants who were involved in programs of individualizing instruction.

In the remaining workshop weeks, teachers became more competent in recognizing individual differences among pupils, in using different instruments to assess individual needs, in writing instructional objectives and prescriptions, and in developing learning stations. Informal evaluation instruments, such as the "Check List for Self-directed Learner," and operational guides in the areas of language arts and mathematics were developed.

In-state and out-of-state consultants assisted project personnel in classroom organization and record keeping, team teaching, development of an operational guide, construction and use of learning stations, devising the research design and evaluating the objectives. Teachers, aides and supervisory personnel participated in monthly in-service programs.

Evaluation Design

Process Evaluation

Continuous evaluation of the project is made throughout the year. Using a check list as a guide, project personnel engage in self-evaluation, as well as evaluation of procedures, methods and students. Helpful information is acquired and exchanged during in-service programs, daily and weekly planning periods, workshops, observations by and conferences with supervisory personnel, outside visitors and consultants, conferences with pupils and parents, teacher and pupil diaries, and visitation to other schools engaged in individualizing instruction.

Teachers and students make regular entries in diaries. The teachers include their assessments and attitudes about their work as well as their personal strengths

and weaknesses. Most of the teachers are pleased with what they are doing and indicate that they would not like to return to the traditional methods of instruction in a traditional classroom setting. They like teaming, open areas, and the joy of having found a way to meet the needs of their students.

The students include in their diaries some of the activities in which they are involved as well as how they feel about what they are doing. Most of the students indicate they like being in the project, especially the small group instruction, the prescriptions, and the variety of materials and equipment. They find it refreshing not to have a teacher "stand and talk in front of the class all day."

Teachers visited other schools where programs in individualizing instruction were being implemented. They gained ideas and information which they were able to adapt to their own situation.

Product Evaluation

Objective 1

The pupils in the experimental group will show significant improvement as compared with a control group in language arts (reading, spelling, language) and/or mathematics as measured by the Stanford Achievement Test (1964 edition).

The procedures used to implement the evaluation design was the establishment of statistically equivalent experimental and control groups on the selected grade levels at the three schools. This was accomplished by the random selection and random assignment of students. All students in both experimental and control groups were administered the Stanford Achievement Test in September and April. The tests were machine scored and the result reported to the district by Harcourt Brace Jovanovich, Inc.

Testing and evaluation at the end of the first year of the project did not

result in definitive evidence that individualizing instruction in language arts and mathematics significantly improved achievement for a sample of fourth, sixth and eighth year students. A serious weakness in the evaluation resulted from the use of the same achievement test battery for all fourth and the same for all sixth year project students although the material in the test batteries was at a level above that on which some of the students had been instructed. In addition to this weakness in the evaluation, the project directors and coordinators felt that one year (eight months of actual instruction) was not long enough to fully implement the new methods and to establish the framework for helping students become self-directed learners.

At the end of the second year two levels of difficulty of the achievement test batteries were used with fourth and sixth year students. One battery (beginning 7th through 9th grade) was used with eighth year students. The objective was achieved for the experimental groups with fourth and sixth year students. Eighth year students in the experimental group made significant achievement gains in paragraph meaning and arithmetic computation, whereas the control group made significant gains in these two areas and also in arithmetic concepts and arithmetic applications.

During the three years of the project, fourth and fifth year students were included in the Harllee Center. Two experimental and two control groups were established at the fourth grade level and two experimental and two control groups at the fifth grade level. At McKenzie School two experimental and two control groups at the sixth grade level were formed. At Poynor Junior High one experimental and one control group were formed. The strategy employed for the analysis of the data was a multivariate analysis of co-variance with the pretest serving as a covariate. The significance level selected was .05.

The statistical analysis indicated that the experimental treatment had a

positive effect on the fourth, fifth, and sixth grade classes in which the Intermediate I battery was used for three of the verbal subtests: Paragraph Meaning, Word Study, and Language. No differences were found in the performance of the experimental and control group (grades 4 and 5) who were administered the Primary II battery. It is possible that this result was due to the lack of statistical power in view of the small number of subjects in the four groups. For the eighth grade students who took the Advanced test, the only significant difference found was in favor of the control group and it was Arithmetic Concepts.

The statistical findings are limited but suggestive of a positive effect of the treatment, particularly in language arts. Three conditions may be responsible for the lack of more statistical significance. First, several batteries were used, e.g., various comparisons had to be made separately. This reduced the power of the analysis to detect significant differences if present. Second, there is some doubt that the Stanford Achievement Tests (1964 edition) subtests are as congruent with the project treatment as might be desirable. Third, the treatment used in the project is being replicated in other classrooms in the selected schools and district-wide, therefore, there were no pure control groups, per se. For example, IMS is now being used to instruct most intermediate and junior high students in math skills; learning centers and stations are being used as an instructional approach in many classrooms; and diagnostic-prescriptive procedures are being used by more and more teachers.

Results of the evaluation indicate that students who have been in the project two years made greater gains than those who have been in the project only one year, substantiating the belief of project directors and coordinators that one year was too short a time to reliably evaluate the project objectives.

Objective 2

That the boys and girls in the program will be able to demonstrate the skills

of decision making, problem solving, and critical thinking, and to show by practical application the ability to assume responsibility for their own learning and increasingly to become self-directed learners as measured by check lists.

The measurement devices administered during the first year and statistically treated by the t test supported the objective of helping students to become self-directed learners in all three centers, in the opinion of teachers. This was strengthened by the opinion of parents at two centers and at the junior high school center by students whose judgement of themselves is more reliable than with younger children.

Following the second year of the project the results of the checklists again supported the objective of helping students in all three centers to become self-directed learners. The opinion of the teachers was supported by the opinion of students themselves and by the parents at two centers. At the third center there was a positive trend in parent opinion but it was not statistically significant.

The results of the third year further substantiated the objective that students do become more self-directed learners when placed in a situation where they must assume some responsibility for their learning.

Summary

The students in this learning environment are highly motivated and involved. They are happier and experience less emotional strain because they learn in their own way and at their own pace on a level where they can succeed. The teacher is deeply involved with each student in helping him realize his needs and in mapping out an instructional program that provides for his needs in a variety of ways. The students increasingly become self-directed, self-initiating learners who are involved in their own assessment of their needs and progress in the program.

There is no single standardized approach to individualizing instruction, but the program plan outlined in this Title III project helps teachers to make the transition from the traditional teacher centered one group classroom to "placing learning ahead of teaching."

FOR FURTHER
INFORMATION

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